



Neuropathy – What is it?

A Bruno Byte
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What is a Neuropathy? The definition seems obvious:

neuro = neuron.
pathy = damage.

So neuropathy just means damage to a neuron. Unfortunately, it's not that simple.

A neuron (nerve cell) communicates with other cells, the brain or activates muscle fibers by sending a signal from the nerve cell body down an insulated extension called the axon (see below). (1)

When you hear about a “peripheral neuropathy” it is almost always caused by damage to the insulation around the axon of **sensory** neurons that receive touch, heat and pain signals and transmit them to the brain. This damage to axons’ insulation can cause numbness, pain, burning, tingling (and sometimes muscle weakness) in the arms, hands, legs and feet. (2)

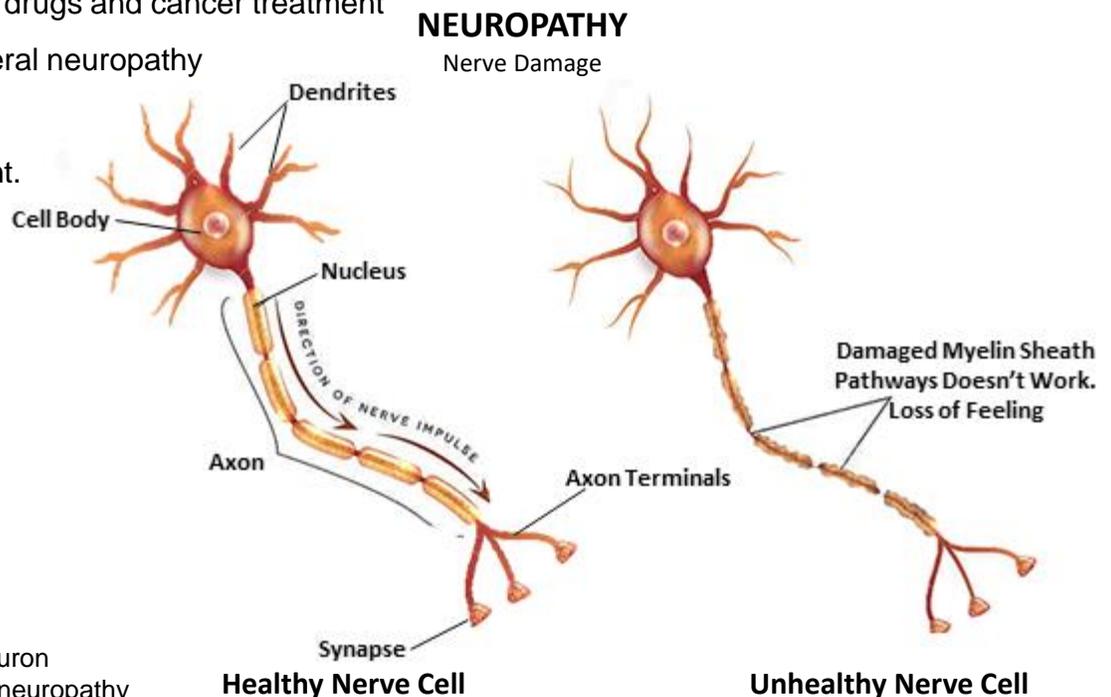
But since the polioviruses’ target was not the axons but the motor neuron cell bodies inside the brain and spinal cord, Polio/PPS does not cause damage to sensory neurons or axons. So Polio/PPS is *not* a neuropathy.

However, polio survivors can develop neuropathies, like carpal tunnel syndrome, damaging sensory axons by significantly overusing wrists and elbows across decades to compensate for arm or leg muscle weakness (e.g., by walking with crutches).

Other common causes of peripheral neuropathy are:

- Diabetes
- Pressure on or damage to nerves, commonly from typing (e.g., carpal tunnel syndrome)
- Nutritional issues and vitamin deficiency
- Alcoholism
- Autoimmune disorders (rheumatoid arthritis, lupus)
- Infections and diseases (liver, kidney and thyroid dysfunction, Lyme disease)
- Inherited disorders
- Exposure to toxins, certain drugs and cancer treatment

If you have any of the peripheral neuropathy symptoms described above, please talk to your doctor about diagnosis and treatment.



Sources:

(1): www.en.wikipedia.org/wiki/Neuron

(2): www.epainassist.com/nerves/neuropathy